Spring 2016

The Efficacy of Structured Repeated Reading as a Method to Increase Reading Fluency

Ryan Capriotti
Governors State University

Acknowledgments

I would not have been able to succeed in this endeavor without the continual support I received from numerous people. First and foremost, I would like to thank Dr. Philip Boudreau for his help with this project every step of the way. I would also like to thank Dr. Barbara Winicki for encouraging me to pursue research in the field of Reading. I would also like to thank my fellow classmates, as their support and collaboration was very helpful throughout the completion of this project.

Additionally, I would like to thank my family and friends for their continual encouragement and support throughout my educational career, particularly while completing this culminating project. I would especially like to thank my mother, Marcia, who taught me the importance of getting an education. She has always been my biggest supporter, and has always encouraged me to excel in my educational, as well as my professional career. I am blessed to have such a wonderful role model in my life.

Table of Contents

List of Tables

List of Figures

The Efficacy of Structured Repeated Reading as a Method to Increase Reading Fluency

Ryan Capriotti

Prepared in Partial Fulfillment of the

Masters of Arts Degree in Multi-Categorical Special Education

Governors State University

Spring 2016

Abstract

Since reading is such a significant component of student success, it is important to perform research to determine which reading strategies and approaches are most effective (Krashen,1993). The purpose of this study was to explore Structured Repeated Reading as a beneficial reading strategy, in particular with students diagnosed with a reading disorder. There were eight students that participated in the study, all with similar reading difficulties and all that have been diagnosed with a Specific Learning Disability (SLD) in the area of Reading. Specifically, four of the students were educated in an instructional, resource room setting (I), and four of the students from a mainstreamed, co-taught setting (CT). After analyzing the data, it is clear the Structured Repeated Reading is an effective strategy to use to increase reading fluency in both the co-taught, as well as the instructional classroom settings.

Key Words: Fluency, Reading, Structured Repeated Reading

The Efficacy of Structured Repeated Reading as a Method to Increase Reading Fluency

Chapter I

Introduction

Reading is one of the fundamental keys to a child's educational success. Children who excel in reading tend to excel in school as well (Krashen, 1993). Students who struggle with reading, on the other hand, often find it a barrier to their educational success (Krashen, 1993). High school students all over the world often find themselves falling further and further behind in their classes. No matter how much effort they put forth, they simply cannot keep up because they cannot comprehend what they are reading, as they lack the reading skills needed to achieve at the high school level (Boling & Evans, 2008). As a result, the situation described above will often become too overwhelming for some students, leaving them feeling as if they have no choice but to drop out (Boling & Evans, 2008). In order to turn this vicious cycle around, many researchers in the field have stated how important it is that these struggling students receive strategic reading instruction from knowledgeable, compassionate, and trained teachers to improve their overall reading abilities (Alliance for Excellent Education, 2006).

Statement of the Problem

Unfortunately, many children struggle with a variety of reading areas, such as (a) word recognition, (b) phonological awareness, (c) fluency, and (d) comprehension (National Reading Panel, 2000). When educators look for sources of reading problems, fluency tends to be overlooked, as it is often deemed insignificant (Cassidy & Grote-Garcia, 2012). There are, however, several reading researchers who believe that there is an important link between reading fluency and comprehension. In fact, fluency is a prerequisite if learners are to succeed at the primary purpose of reading, the construction of meaning from text (Allington, 1983; Samuels,

1988; Schreiber, 1980). Furthermore, reading fluency has been identified by the Report of the *National Reading Panel* (2000) as one of five critical areas of reading instruction and assessment. For these reasons, many educators have made building reading fluency a key goal of the reading curriculum.

Purpose of the Study

Since reading is such a significant component of student success, it is important to perform research to determine which reading strategies and approaches are most effective (Krashen,1993). Providing this information to teachers allows them to ensure they are using strategies that are going to help their students be most successful. The purpose of this study was to explore Structured Repeated Reading (Samuels, 1979) as an effective reading strategy, in particular with students diagnosed with a reading disorder.

Questions of the Study

There were two main questions being examined in this study. First, what is the efficacy of an implementation of Structured Repeated Readings on the fluency of students identified as having a reading disorder? Secondly, do students in instructional reading show greater improvement than those in the co-taught setting?

Assumptions and Limitations

One assumption made in this study was that implementing the method of Structured Repeated Reading would increase reading fluency for students who have a reading disorder. Another assumption was that students being examined from the co-taught setting had been placed there because they have a higher skillset than those students in the instructional setting. One limitation was the time constraint of the Graduate Seminar Class, as this allowed me to track

data for only six weeks. As a result, all data was collected throughout the course and did not reflect the entire school year.

Significance of the Study

Realizing that reading fluency should be an important aspect of the reading curriculum is only half the battle for teachers. Teachers must also determine which of the numerous reading fluency strategies available to them will be most helpful to their students. The amount of instructional time that teachers have with their students is limited, so knowing which strategies have been proven to be most effective in increasing students' reading fluency is critical. One possibility, as mentioned above, is Structured Repeated Reading (Samuels, 1979). A variety of research evidence has shown this strategy to be an effective way to increase reading fluency (Allington, 1983; Therrien & Kubina, 2006).

The following terms have been defined in order to help the reader gain a better overall understanding of the research that was conducted in this study.

Definition of Terms

Achievement Improvement Monitoring System (Aims Web). Aims Web is a research based reading assessment tool used for students in sixth through eighth grade. It can be used to assess student's reading fluency and reading comprehension skills in a quick and efficient manner (Pearson, Inc., 2016).

Dyslexia. According to the National Institute of Neurological Disorders and Stroke (NINDS), Dyslexia is defined as "a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities" (NINDS, 2015, ¶ 1). The site goes on to state that Dyslexia can be inherited, as some genes are predisposed to develop Dyslexia.

Individuals with Disabilities Education Act (IDEA). According to the U.S. Department of Education (2010), IDEA is a law ensuring services to children with disabilities throughout the nation. IDEA was last reauthorized by the federal government in 2004. IDEA governs how states and public agencies provide early intervention, special education, and related services to more than 6.5 million eligible infants, toddlers, children, and youth with disabilities (United States Department of Education, 2010).

Individualized Education Plan (IEP). According to the U.S. Department of Education, an IEP is a legal document that details the individualized educational plan that will be used for a specific student. Every student that receives special education services is required by law to have an IEP (United States Department of Education, 2010).

Mainstreamed. This term is used to describe students whose instruction and related services are provided in the regular education classroom with special education support. One example is a co-taught classroom, where both a general education teacher and a special education teacher jointly deliver instruction to both general education and special education students (Friend, 2013). Another example is a general education classroom where students in the class that have IEP's receive consult services in order to ensure that their accommodations and modifications are being provided by the general education teacher (Friend, 2013).

Reading Disorder. According to the National Reading Panel, a reading disorder is defined as when a person is experiencing difficulty with any part of the reading process. These disorders are present from a young age. Reading disorders usually result from specific differences in the way the brain processes language (National Reading Panel, 2000).

Reading Fluency. According to the National Reading Panel, Reading Fluency is defined as the ability to read text with accuracy, appropriate rate, and good expression (National Reading Panel, 2000). It is generally acknowledged that fluency is a critical component of skilled reading (National Reading Panel, 2000) Nevertheless, it is often neglected in classroom instruction (National Reading Panel, 2000).

Resource Room (Instructional Setting). According to the Illinois State Board of Education, resource room, also known as instructional setting, is defined as a setting where a student receives individually designed instruction via a special education class. This setting is comprised of fewer students than the general education classroom. They go on to state that students in this setting receive this instruction for less than half of the school day (Illinois State Board of Education, 2009).

San Diego Quick Assessment of Reading Ability (SDQA). The SDQA was originally developed by Margaret La Prey and Ramon Ross. This assessment measures a student's ability to recognize words out of context. The authors have noted that this assessment can be used to accurately determine a student's reading level (La Prey & Ross, 1969).

Specific Learning Disability. According to IDEA, specific learning disability is defined as "a disorder in 1 or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations" (IDEA, 2004, ¶ 3). "Specific Learning Disability does not include learning problems that are primarily the result of visual, hearing, or motor disabilities; of intellectual disability; of emotional disturbance; or of environmental, cultural, or economic disadvantage" (IDEA, 2004, ¶ 3). This disability category includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia and developmental aphasia (IDEA, 2004, ¶ 3).

Structured Repeated Reading. According to Samuels (1979) "The method consists of rereading a short, meaningful passage several times until a satisfactory level of fluency is reached. Then the procedure is repeated with a new passage" (p. 377).

Chapter Summary

Overall, it has been shown that strong reading ability is one of the building blocks for educational success (Krashen, 1993). As one of the five pillars of reading, fluency is an important aspect of reading and should play a significant role in the reading curriculum (National Reading Panel, 2000). When attempting to increase reading fluency, teachers have a variety of methods available to them. Structured Repeated Reading is one such research-based method that has shown to improve reading fluency for students. With that being said, this research study will

attempt to answer the following questions; what is the efficacy of an implementation of Structured Repeated Readings on the fluency of students identified as having a reading disorder? Furthermore, do students in instructional reading show greater improvement than those in the co-taught setting?

Chapter II

Review of Literature

Legislation

Prior to 1970, students who suffered from disabilities or handicaps were often treated poorly in the realm of public education. Often times they were not allowed to attend school. When they were allowed to attend, the services they received could be described as minimal at best (Martin, Martin, & Terman, 1996). Eventually, the guarantees of equal protection and due process under the 14th Amendment of the United States Constitution was used by the federal court to justify that no student could be discriminated against due to a disability, and also that parents have rights to due process when in regards to their child's education (Martin et al., 1996).

IDEA

In November of 1975, the Education for All Handicapped Children Act of 1975, also known as Public Law 94-142, was enacted into law. Public Law 94-142 ensures that all handicapped children would "have a right to education, and to establish a process by which state and local agencies may be held accountable for providing educational services for all handicapped children." (U.S.C.C.A.N, 1975, p. 1427) In 1990, the law was reauthorized and renamed the Individuals with Disabilities Education Act (IDEA). It was again reauthorized in 1997, and also in 2004. Embedded within IDEA are six major principles, which consist of Zero Reject, Nondiscriminatory Identification and Evaluation, Free and appropriate public education (FAPE), Least Restrictive Environment (LRE), Due Process Safeguards, and Parent and Student Participation and Shared Decision Making (U.S. Department of Education, 2010).

Thirteen categories. IDEA recognizes 13 different disability categories that would consider a student as eligible to receive special education and related services. A student must

fall within at least one of these categories in order to receive any type of special education or related services. These 13 categories, along with their descriptions, are shown in table 1 below.

Table 1

Categories of disability under IDEA

Federal Disability Term	Brief Description
Specific Learning disability (LD)	A disorder related to processing information that leads to difficulties in reading, writing, and computing; the most common disability, accounting for half of all students receiving special education.
Speech or language impairment	A disorder related to accurately producing the sounds of language or meaningfully using language to communicate.
Intellectual disability	Significant limitations in intellectual ability and adaptive behavior; this disability occurs in a range of severity.
Emotional Disturbance	Significant problems in the social-emotional area to a degree that learning is negatively affected.
Autism	A disorder characterized by extraordinary difficulty in social responsiveness; this disability occurs in many different forms and may be mild or significant.
Hearing impairment	A partial or complete loss of hearing.
Visual impairment, including blindness	A partial or complete loss of vision.
Deaf-blindness	A simultaneous significant hearing loss and significant vision loss.

Table 1 (Continued)

Categories of disability under IDEA

Federal Disability Term	Brief Description
Orthopedic impairment	A significant physical limitation that impairs the ability to move or complete motor activities.
Traumatic brain injury (TBI)	A medical condition denoting a serious brain injury that occurs as a result of accident or injury; the impact of this disability varies widely but may affect learning, behavior, social skills, and language.
Other health impairment (OHI)	A disease or health disorder so significant that it negatively affects learning; examples include cancer, sickle-cell anemia, and diabetes.
Multiple disabilities	The simultaneous presence of two or more disabilities such that none can be identified as the primary disability; the most common example is the occurrence of mental retardation and physical disabilities.
Deafness	A hearing impairment that is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification that adversely affects a child's educational performance.

Note. Adapted from *Including students with special needs: A practical guide for classroom teachers*, p. 22, by M. Friend & W. Bursuck, 2009 Boston, MA: Allyn & Bacon.

Specific Learning Disability. Although IDEA does specify thirteen separate disability categories, this study will focus particularly on students identified as having a Specific Learning Disability. According to IDEA, a specific learning disability is defined as

> a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. (IDEA, 2004, ¶ 5)

IDEA continues to state that a Specific learning disability does not include learning problems that "are primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage" (IDEA, 2004, ¶ 4). Identifying a student who has a specific learning disability can often be a complex process. IDEA does not require the use of the discrepancy model, where a discrepancy between academic achievement and intellectual ability is looked for, as this approach often waits for the student to fail before receiving help (Torgesen, 2000). IDEA goes on to say that schools "may use a process that determines if the child responds to scientific, research-based intervention as part of the evaluation procedures" (IDEA, 2004, ¶ 8).

No Child Left Behind

Originally known as the Elementary and Secondary Education Act (ESEA), No Child Left Behind (NCLB) was signed into law by President George W. Bush in 2002 (U.S. Department of Education, 2010). The No Child Left Behind legislation is based on five core principles which include strong accountability for results, expanded flexibility and local control of schools, an emphasis on teaching methods based on scientific research, expanded options for

parents, particularly those whose children attend low-performing schools, and highly qualified teachers (U.S. Department of Education, 2010).

Scientifically-based instruction. One of the instructional strategies to surface from the No Child Left Behind Legislation is the implementation of using scientifically-based research and instruction to determine teaching methods used for classroom instruction. According to the U.S. Department of Education, "scientifically-based research applies rigorous, systematic, and objective procedures to evaluate whether a program is effective" (U.S. Department of Education, 2008, ¶ 3). This helps ensure that the methods being used to educate students have been scientifically proven to be effective. This is important to keep in mind when choosing which instructional methods and strategies are used with students.

Reading first. Reading First is one of the Reading programs put in place by No Child Left Behind. This program encourages schools to use scientifically-based methods as the basis of reading instruction in the early grades (U.S. Department of Education, 2008). States are given money to use towards this goal if they can prove how they are going to make gains in reading using scientifically-based methods. Reading First identifies five essential components of reading instruction, which include: phonemic awareness, phonics, fluency, vocabulary, and comprehension (U.S. Department of Education, 2008). According to the U.S. Department of Education "Achievement data reported by the SEA on their Annual Performance Reports show that Reading First students from nearly every grade and subgroup have made impressive gains in reading proficiency" (U.S. Department of Education, 2008, ¶ 6).

Reading

According to Anderson, Hiebert, Wilkinson, and Scott (1985), reading can be defined as "the process of constructing meaning from written texts. It is a complex skill requiring the

coordination of a number of interrelated sources of information" (p. 7). Since reading is so complex, it is important to note that there is no "one shoe fits all" in regards to the best way to increase a child's reading ability. Reading can be compared to a symphony orchestra, as real, meaningful reading can only take place when all of its components are put together in a smooth and unified manner (Anderson, 1985).

Neurological Aspects of Reading

Reading is an extremely complex activity that relies on several aspects of the brain in order to accomplish (Allman, 2000). According to Allman, the outer surface of the brain, which is also known as the Neocortex, plays an important role in the brains ability to read. Specifically, Wren notes that when reading, "the brain is analyzing text at three major levels – the visual features of the words and letters, the phonological representation of those words, and the meanings of the words and sentences" (¶ 3). Wren (N.D.) explains that the Neocortex is split into four parts: the frontal lobe, the parietal lobe, the occipital lobe, and the temporal lobe. According to Wren, (N.D.), "Complex tasks such as reading a passage of text are broken down into easier tasks, and the easier tasks are distributed to the areas of the brain that specialize in those tasks" (¶ 3). Wren goes on to explain this notion in more detail by describing the role each of these lobes play when reading. He explains that the occipital lobe processes the visual aspect, such as the words and even the individual letters, while the frontal lobe processes the meaning of what is being read, and the temporal lobe processes all of the sounds that are associated with reading.

Reading Theory

Determining the best approach to teaching children to read has been heavily debated for many years (Cohen & Cowan, 2008). Two of the most popular approaches to teaching reading are the phonics approach and the whole language approach (Cohen & Cowan, 2008). Regardless

of the method that is chosen, in order for quality literacy development to take place, it is important for the students to be engaged and interested in the approach being used (Cunningham & Cunningham, 2002).

Phonics Approach. Phonics, known as an analytical approach to reading, is a popular method used to teach reading, and put simply, can be defined as teaching the relationship between the letters of the written language, known as graphemes, and their individual sounds, known as phonemes (Carnine, Silbert, Kame'enui, & Tarver, 2004).

Table 2

Six Phonics Approaches

Approaches	Brief Description
Synthetic phonics	Children learn how to convert letters or letter combinations into sounds, and then how to blend the sounds together to form recognizable words.
Analytic phonics	Children learn to analyze letter-sounds relationships in previously learned words. They do not pronounce sounds in isolation.
Analogy-based phonics	Children learn to use parts of word families they know to identify words they don't know that have similar parts.
Phonics through spelling	Children learn to segment words into phonemes and to make words by writing letters for phonemes.
Embedded phonics	Children are taught letter-sound relationships during the reading of connected text.
Onset-rime phonics	Children learn to identify the sound of the letter or letters before the first vowel (the onset) in a one-syllable word and the sound of the remaining part of the word (the rime).

Note. Adapted from *Direct Instruction Reading*, (Carnine et al., 2004, p. 39).

According to the International Reading Association (1997) the benefits of phonics instruction "will depend on the comprehensiveness and effectiveness of the entire literacy curriculum. Nor is phonics the only way to teach reading. Millions of students have learned to read with little or no exposure to any phonics" (p. 6). There are a variety of phonics approaches, which are described in Table 2 above.

Whole Reading Approach. Whole Reading, known as a synthetic approach to reading, is also a popular method used to teach reading, and put simply, can be defined as teaching students to recognize words as whole units without breaking the words down into groupings of sounds or letters. This method gained popularity in the late 1930's, as it became apparent that many young students were not successfully learning to read (Reutzel & Cooter, 2005). When using the whole reading approach, the top priority was to teach students the words that were used most frequently in the English language, by using early reader books such as "Dick and Jane" (Reutzel & Cooter, 2005). As the debate over which strategy is the best to teach reading continues to wage, according to Carbo, (1996) it is important to keep in mind that "using a single approach to reading generally doesn't work. Many combinations and permutations are necessary to provide an optimal learning environment for an entire class of readers" (p. 37).

Reading Disorders

Another important aspect to discuss regarding the teaching of reading is the fact that many people suffer from a variety of reading disorders, which makes learning the skill of proficient reading that much harder. According to the Eunice Kennedy Shriver National Institute of Child Health and Human Development, "reading disorders occur when a person has trouble with any part of the reading process" (2014, ¶ 2). Researchers have identified three major deficit areas that are often present when a person is suffering from a reading disorder. The first deficit

area is known as a phonological deficit, where there is a problem with the brain's phonological processing system of oral language (Fletcher, Lyon, Fuchs, & Barnes, 2007). The next deficit is known as a processing speed/orthographic processing deficit, which pertains to the speed and accuracy of printed word recognition (Fletcher et al., 2007). The third deficit area is known as a comprehension deficit, which refers to the brain's inability to comprehend the material that is being read (Fletcher et al., 2007). People who suffer in one of these areas are said to have a single deficit, while people suffering from a combination of these deficits are said to have a double deficit (Wolfe & Bowers, 1999). Unfortunately, it is much more common for people to suffer from more than one deficit, which makes it even more difficult to remediate (Wolfe & Bowers, 1999).

Dyslexia. Dyslexia is among the most common reading disorders, and can be defined as a brain-based type of learning disability that specifically impairs a person's ability to read (NICHD, 2002). Symptoms of Dyslexia vary greatly from person to person, but there are some common characteristics such as issues with word decoding, lack of fluency, and poor reading comprehension (NICHD, 2002). Although the actual amount of Dyslexia subtypes is currently subject to debate, Wolf (2007) explains that there are three subtypes commonly associated with Dyslexia. According to Wolf, the first subtype relates to a phonological processing deficit, where the brain has a difficult time decoding and sounding out the words. The second subtype, according to Wolf, relates to a rapid naming deficit, where the brain has difficulty identifying phenomes, words, and word chunks both quickly and automatically. Wolf describes the third subtype as double deficit, where the brain experiences a deficit in both phonological processing and rapid naming.

Late Emerging Reading Disorder (LERD). LERD is reading disorder that can be defined as when reading difficulties are found in older students who did not show signs of reading issues when tested in earlier grades (Leach, Scarborough & Rescorla, 2003). Chall (1983) was one of the first researchers to discuss this phenomenon, referring to it as a "fourth grade slump, where students in the early grades are reading at an average level, but then begin to experience reading difficulties as they reach middle school. Some researchers, such as Chall and Jacobs (2003) have suggested that LERD is more commonly seen with children from disadvantaged backgrounds, as they often experience less exposure to reading material and upper level vocabulary, which makes it harder for them to comprehend what they are reading when they reach higher grades.

Five Pillars of Reading

In 2000, the National Reading Panel summarized and analyzed several decades of scientific research in order to determine the best way for educators to teach reading in the classroom. As a group, they decided that effective reading instruction should focus on five critical areas: phonemic awareness, phonics, fluency, vocabulary, and comprehension (National Reading Panel, 2000). Phonemic awareness refers to the ability to hear, identify, and manipulate individual sounds, otherwise known as phonemes, in spoken words (National Reading Panel, 2000). Phonics is often known as the next step, as students build upon phonemic awareness, using their knowledge of letters, as well as the sounds associated with them, in order to sound out printed words (National Reading Panel, 2000). Fluency refers to the ability to read with speed, accuracy, and proper expression (National Reading Panel, 2000). Vocabulary refers to the ability to understand the meaning of the words that are being sounded out (National Reading Panel, 2000). Comprehension can be defined as being capable of understanding what is being

read as a whole. For complete comprehension to occur, students must be able to make connections, as well as infer, predict, and analyze what they are reading (National Reading Panel, 2000).

Fluency. As stated above, fluency has been identified by the National Reading Panel as one of the five pillars of effective reading instruction. Furthermore, it has been noted that fluency acts as a bridge to comprehension, which means students cannot fully focus on comprehending what they are reading until they have mastered fluency. Fluency, in fact, is a prerequisite if learners are to succeed at the primary purpose of reading, the construction of meaning from text (Allington, 1983; Samuels, 1988; Schreiber, 1980). Not all professionals have bought into this concept, however. There are a minority of people in the reading field who do not believe that fluency contributes to comprehension.

No Connection to Comprehension. This minority viewpoint was expressed by Kim, Park, and Wagner (2014), who argue that fluency can sometimes, but does not always, help bridge comprehension. In this study, the researchers assessed 170 first graders in Korea in order to determine the relationship between fluency and comprehension. The fact that they are not fully on board with the belief that fluency bridges comprehension is evident when they state "neither text reading fluency nor word reading fluency was uniquely related to reading comprehension" (p. 94). This study must be taken with a grain of salt, though, as first-grade students are usually not fluent readers yet.

Another example is a research study by Applegate, Applegate, and Modla (2009). In this study, 171 children from grades 2 through 10 were tested. After analyzing the results, the researchers concluded that there was no significant link between reading fluency and comprehension. This can be observed when the authors state "The most startling finding,

however, was the fact that only one third of our fluent and "strong" readers struggled mightily with comprehension at their current grade level" (p. 5). The authors also go on to say that, unlike popular belief, "Our data suggest that for many of the students in our sample, the freed-up resources that result from automaticity and fluency do not necessarily or automatically flow toward comprehension" (p. 6). Examples such as these show that even though the majority of researchers in the field do recognize a connection between fluency and comprehension, there are others in the field who are not on board with this notion.

Connection to Comprehension. As mentioned above, however, the majority of experts in the reading field strongly believe that fluency is extremely important because it indeed does act as a bridge to reading comprehension. This idea was popularized by LaBerge and Samuels when they published their theory of automatic information processing in 1974. This theory states that if a reader has not developed automaticity, a significant amount of the reader's cognitive resources are devoted to lower level processing, which does not leave enough room for the upper level cognitive processes needed for comprehension to take place (LaBerge & Samuels, 1974.) With this being said, LaBerge and Samuels claim that "automaticity of word recognition is a prerequisite of comprehension" (p. 311). Another researcher who supports this claim is Chall. She spent several years visiting hundreds of classrooms and analyzing research studies. She found that strong fluency skills make it easier for students to comprehend what they are reading (Chall, 1996).

One example that agrees with the automatic information processing theory is a research study by Klauda and Guthrie (2008). This study focused on 278 fifth-grade students from the east coast of the United States. The students ranged in reading ability from several years below to several years above grade level. The researchers found that there was a strong connection

between reading fluency and comprehension. According to the authors, "The present findings are consistent with automaticity theory's assertion that fast, accurate word recognition frees cognitive resources for reading comprehension. This is suggested by the strong relationships observed in this research between word recognition and reading comprehension performance" (p. 318). This quote shows that the researchers strongly believe in the theory of automatic information processing, and the belief that it is a prerequisite of reading comprehension.

Another study that agrees with the automatic information processing theory is a research study by Basaran (2013). Ninety fourth-grade students from a public school in Turkey participated in this study. Pearson correlation analysis was used to determine the relationship between fluent reading skills and reading comprehension. The data confirmed that reading fluency did indeed contribute to reading comprehension. The author illustrates this point when he states, "A significant relationship was found between prosody skill and general comprehension, especially in-depth meaning linking" (p. 2290). The author also goes on to state that

> according to the results of the study, fluent reading can be used while measuring the students' reading comprehension, comparing their measurement results or in diversifying the measures. This result can also be interpreted that by helping students to acquire fluent reading skills, you also help them to develop skills regarding reading comprehension. (p. 2290)

This research study is another one of the many studies that align themselves with the theory of automatic information processing, and the notion that it is necessary in order for sufficient comprehension skills to be reached.

Methods to increase Fluency

Since reading fluency is recognized as one of the five pillars of reading, and also because the majority of experts in the reading field believe that reading fluency is strongly linked to reading comprehension, it is important to discuss effective methods that can be used to help build reading fluency. As mentioned previously, scientifically-research based methods are the only ones to be considered, as these methods have been researched, and proven to be effective. There are currently several methods that have been recognized to help increase reading fluency, such as reading aloud, paired reading, whole class choral reading, echo reading, audio assisted reading, Reader's Theatre, chunking, also known as phrase reading, and structured repeated reading.

Read Aloud. One scientifically-research based method known to increase reading fluency is Read Aloud, otherwise known as Modeled Reading. This method simply involves a teacher, or any other fluent reader, reading out loud to a student. This provides the student with a model of how to properly pronounce words, pace the text, and use expression while reading. One study that shows the successfulness of this method was conducted by Smith (1979). In this study, three separate groups of three students, all of whom had been diagnosed with a reading disorder, were chosen to participate. The students were taken from private schools in the Nashville, Tennessee area. The fluency of each student was assessed both with and without Modeled Reading taking place. After analyzing the results of the study, the author claimed that Modeled Reading had a positive impact on the reading fluency of each of the students who were tested. In fact, "Three learning disabled students participated in the study, and in every case the correct and error rates for oral reading improved remarkably. The tactic selected — modeling —is inexpensive in teacher time and cost and is easily scheduled" (p. 39). The author then goes on to state that "the data indicates that modeling could be an appropriate intervention to select when

children are not yet proficient in oral reading" (p. 39). This research study helps show that Read Aloud, otherwise known as Modeled Reading, is one of several methods that can be used to help students increase reading fluency.

Paired Reading. Another scientifically-research based method known to increase reading fluency is Paired Reading. In this method, a strong, fluent reader, and a struggling non-fluent reader, read aloud together in unison. The struggling reader signals when he or she wants to read alone, and continues to read alone until an error is made. Once the student makes an error, the strong reader provides the student with corrective feedback. The pair then reads the sentence that contains the "trouble" word over again together, and then they continue reading. One example that shows the success of this method is a research study by Rasinski and Stevenson (2005). In this study, 20 first-grade students, with various reading abilities, were randomly assigned to either an experimental or a control group for an 11-week period. Both pre-test and post-test data was collected from each of the students by an independent source. After analyzing the data, the author suggests that Paired Reading was an effective tool to use when attempting to increase reading fluency amongst students. The authors articulate their conclusion by stating "Since this intervention seems quite effective for those students most at risk for reading failure, its use in kindergarten or first grade may alleviate more serious and more costly reading failure at higher grades" (p. 123).

Another study that emphasizes the success of Paired Reading is a research study by Macdonald (2010). The study focused on 10 students, who varied in age and reading ability. The study was conducted over an 18-month period. After analyzing the results, the author is confident that Paired Reading helped improve reading fluency for all of the students involved. This can be noted when the author states "This research indicates that reading competency

improved significantly for all pupils who were involved in the paired reading program. Even pupils who were not fully committed or who had severe reading difficulties read well by the end of the program" (p. 22). Both of these examples indicate that Paired Reading is an effective instructional method to use when attempting to increase reading fluency amongst students.

Choral Reading. A third scientifically-research based method known to increase reading fluency is Whole Class Choral Reading, also known as the Neurological Impress Method. This method requires a group of students to all read a passage together with a teacher, in unison, as the teacher models appropriate pronunciation, reading rate, and expression. After reading, the teacher provides feedback by reviewing problematic words and phrases that were encountered. Flood, Lapp, and Fisher (2005) used this method in their study. In this study, 20 third-to sixth-grade students who were reading below grade level, according to state achievement tests, were randomly selected to participate. The students attended five different suburban public schools in the San Diego area. Each of the students received Choral Reading instruction four times a week, for 10 minutes per day, for a total of five weeks. Afterwards, post-test data was collected using the same passages that were used for the pre-test. After evaluating the data, the authors confirmed that Choral Reading, also known as the Neurological Impress Method, helped increase reading fluency for the students who were tested. The authors state:

> The data from our recent studies on NIM suggest that this is an effective method for increasing fluency without sacrificing comprehension. Students in this study across grades 3–6 exhibited statistically significant gains in oral reading fluency, silent reading fluency, and comprehension as a result of NIM. (p. 156)

This study, along with a variety of others, has helped confirm that Choral Reading is an effective method that can be used to help increase reading fluency amongst students.

Echo Reading. Another scientifically-research based method known to increase reading fluency is Echo Reading. In this method, a teacher reads a passage, ranging from a sentence to a paragraph, while the student follows along, using his or her finger to keep track of the words. Once the teacher stops, the student echoes back the same reading passage. It is important to make sure that the student is actually following the text with his or her finger to ensure that the student is reading and not just repeating back what was read from memory. An example of this method having a positive effect on reading fluency is noted in a research study by Homan, Klesius, and Hite (1993). Twenty-six below grade-level readers from two sixth-grade centers in a large metropolitan area participated in the study. Of these students, 13 of them received the echo reading strategy. The Echo method was implemented in 20-minute sessions, three times a week, for seven weeks. After interpreting the results of the data, the authors report that all of the reading methods, cloze reading, unison reading, and echo reading, had a positive impact on reading fluency. This point is illustrated in the article when the authors state "This study examines the effects of repeated reading and assisted non-repetitive strategies such as echo reading, cloze reading, and unison reading on reading rate, error rate, and comprehension" (p. 94). The authors go on to state that "The results of this study indicate that both repeated reading and assisted non-repetitive reading methods improved comprehension among sixth-grade Chapter I students who received instruction for a 7-week period" (p. 98). This study has helped confirm that Echo Reading is a research-based instructional method that can help students increase reading fluency.

Audio Assisted Reading. The next scientifically-research based method that has been proven to increase reading fluency is Audio Assisted Reading. This is a simple method where students read along in their book while they listen to a fluent reader read the book on some type

of audio device. Students can either read along silently, out loud, or any combination of both. Several research studies have been conducted which show this method is effective for both general education students, as well as students with reading disabilities. One such example is a research study by Esteves and Whitten (2011). This study compared the efficacy of using audiobooks, compared to using Silent Sustained Reading. Twenty students from five different schools in a Midwestern suburban school district participated in the study. All of the students were in the upper elementary grades and had a documented reading disability. After pretests were administered, one group practiced Silent Sustained Reading for 30 minutes, four days a week, for eight weeks. The other group engaged in assisted reading by listening to audio books for the same amount of time. After the eight weeks, post tests were given and the researchers analyzed the results. The findings that Audio Assisted Reading helped increase reading fluency for students were consistent with many other studies that have been conducted in this field. According to Esteves and Whitten:

> The present study adds to the existing knowledge base by studying the effects of assisted reading methodology with commercially-produced digital audiobooks and MP3 players. Results showed that upper elementary students with reading disabilities demonstrated a greater increase in reading fluency rates when assisted reading with digital audiobooks was utilized as compared to the control group that participated in SSR. (p. 37)

This study adds to the research base indicating that Audio Assisted Reading is a research based study that has shown to help increase reading fluency amongst struggling readers.

Readers Theatre. Readers Theatre is yet another scientifically research-based method known to increase reading fluency. Readers Theatre is a fun way to have students read aloud, as they "perform" by reading scripts, using their facial expressions and voices to act out the story.

Unlike traditional theatres, there are usually no props or costumes, and students do not need to memorize their lines. This method is extremely popular because students tend to love it, and it has also been shown to effectively increase reading fluency. One example that supports this notion is a research study by Martiniez, Roser, and Strecker (2002). Two second-grade classes from an inner city school district participated in the study. Every Monday, the students were introduced to a script. They practiced the script throughout the week and then "performed" the script on Friday. This routine took place for 10 weeks. Pre and posts tests were taken so that the researchers could compare the results. After analyzing the data, the authors noted a significant increase in reading fluency throughout both classes. The authors illustrate these findings in the article when they state:

> Over the 10-week project, nearly all of the children posted gains in their rate of reading. Overall, there was an average rate increase of 17 words per minute for these second graders, while two similar classes of second graders who had the series books in their classroom libraries, but no Readers Theatre, gained an average of 6.9 words per minute. (p. 102)

The authors then go on to describe how Readers Theatre acts as a fun way for students to participate in repeated readings, as students are motivated to "rehearse" over and over again so that their "performance" will be perfect.

> Readers Theatre, then, offers a reason for children to read repeatedly in appropriate materials. It provides a vehicle for direct explanation, feedback, and effective modeling. Perhaps due to the interplay of these influences, we found that Readers Theatre promoted oral reading fluency, as children explored and interpreted the meanings of literature (with joy)! (p. 104)

This study demonstrates how Readers Theatre can be an effective approach to help increase reading fluency amongst children, and should be implemented in classrooms everywhere.

Chunking. Chunking, also known as phrase reading, is another method that has been recognized to increase reading fluency amongst students. In this method, instead of focusing on individual words, students read phrases, or chunks of a reading passage. Doing this has been known to increase fluency. One example that discusses the effectiveness of this method is a research study by Vule and Nguyen (2014). Forty-four students ranging from ages 19 to 22 participated in the study. The students were then split into an experimental group and a control group, each group contained 22 students. The study was conducted for 15 weeks, and consisted of three stages; the pre-treatment stage, the treatment stage, and the post-treatment stage. During the treatment stage, the phrase reading method was introduced to the experimental group, but not to the control group. After interpreting and analyzing the data, the researchers concluded that chunking had a positive impact on the reading fluency of the students who were tested.

> The findings of significant differences between the mean of the experimental group and the control group showed that students which were treated with phrase reading instructions have significantly outperformed the students in the control group in terms of reading speeds on both silent reading fluency and oral reading fluency. (p. 31)

This research study serves as a great example of how chunking is an effective approach to use when attempting to build reading fluency in the classroom.

Repeated Reading. Repeated Reading is the last method that will be reviewed, as it is the method that this research study will be based upon. Like previously stated, Repeated Reading was popularized by S. Jay Samuels in the mid 1970's. This method requires a student to read the same passage over and over again several times. After each reading, the instructor

reviews the passage with the student and discusses any miscues that were made. There has been a great deal of research studies conducted on whether this method truly does help increase reading fluency. Although some of the research supports the notion that Repeated Reading is not an effective method to use to increase reading fluency, such as Wexler et al. (2010), most of the research supports the belief that it is an effective method that should be used in the classroom.

One such study that supports the belief that Repeated Reading does help increase reading fluency is a research study by Homan, Klesius, and Hite (1993). Twenty-six below grade level readers from two sixth-grade centers in a large metropolitan area participated in the study. Of these students, 13 of them received the repeated reading strategy. The sessions were implemented in 20-minute sessions, three times a week, for seven weeks. The effectiveness of the repeated reading strategy is pointed out when the author states "The results of this study indicate that both repeated reading and assisted non-repetitive reading methods improved comprehension among sixth-grader chapter I students who received instruction for a 7-week period" (p. 98). This serves as a perfect example of a research study that supports the notion that Repeated Reading is an effective method to help increase reading fluency.

Since this research study will focus on whether Repeated Reading is an effective method to use to increase reading fluency specifically for students with learning disabilities, it is also important to review the current literature regarding Repeated Reading use with learning disabled students. One such example of this is a research study conducted by Sindelar, Monda, and O'Shea (1990). In this study, 25 students from North Florida, grades three through five, who were identified as having a learning disability, were selected to participate. The examiners were upper-level undergraduate special education majors who received three weeks of extensive training. Once the study was complete and the data was analyzed, the authors concluded that

Repeated Reading can be effective when working with students with learning disabilities. This view is illustrated by the authors when they state:

> Mastery level readers benefited from repeated readings in the same ways that instructional readers did; their reading rate increased significantly from one to three readings…Thus, these findings support the conclusion that the method of repeated readings is equally effective for LD and nondisabled readers and for students reading at mastery and instructional levels. (p. 225)

This study serves as one of the many examples of evidence that Repeated Reading is an effective method to use when attempting to increase reading fluency in students with a learning disability. Another example is the meta-analysis by Therrien (2004). In this meta-analysis, Therrien followed a six-step process to find legitimate research studies that had been conducted between 1977 and 2001. In the end, 18 research studies were selected for the meta-analysis. After reviewing and analyzing all of the data compiled, Therrien illustrates his support for Repeated Reading when he states "this analysis indicates that repeated reading can be used effectively with nondisabled students and students with learning disabilities to increase reading fluency and comprehension on a particular passage and as an intervention to increase overall fluency and comprehension ability" (p. 252). Both of these are excellent examples that illustrate the fact that Repeated Reading is an effective teaching strategy to use when the objective is to increase reading fluency when working with students with learning disabilities.

Chapter Summary

It is clear that it is important to be a skilled reader in order to achieve success in school (Krashen, 1993). It is imperative for educators to focus on the five pillars of reading: phonemic awareness, phonics, fluency, vocabulary, and comprehension, with their students. Legislation

such as No Child Left Behind and initiatives such as Reading first require that teachers use scientifically research-based methods of instruction in the classroom. With this in mind, there is a plethora of research to support a variety of instructional methods designed to increase fluency, such as reading aloud, paired reading, whole class choral reading, echo reading, also known as the Neurological Impress Method, audio assisted reading, Reader's Theatre, chunking, also known as phrase reading, and structured repeated reading. This research study will attempt to increase the research base that supports the use of structured repeated reading as a method to build reading fluency with students suffering from a reading disorder.

Chapter III

Methodology

Since reading is such a significant component of student success, it is important to perform research to determine which reading strategies and approaches are most effective (Krashen, 1993). The purpose of this study was to explore Structured Repeated Reading as a beneficial reading strategy, in particular with students diagnosed with a reading disorder. This quantitative research study used the Single-Subject Experimental, A-B Design (Gay, Mills, and Airasian, 2006).

Participants

Participants for this study were drawn from eighth grade students in a junior high school located in the Midwestern area of the United States. There were eight students that participated in the study, all with similar reading difficulties and all that have been diagnosed with a Specific Learning Disability (SLD) in the area of Reading. Specifically, four of the students were educated in an instructional, resource room setting (I), and four of the students from a mainstreamed, co-taught setting (CT). At the school that was chosen, there were 24 eighth grade students with an Individualized Education Plan (IEP). Of those 24 students, 15 of them received their Reading instruction in the (I) setting, and the other nine received their Reading instruction in the (CT) setting. Out of the 15 students in the (I) setting, 12 of them had been diagnosed with an (SLD) in the area of Reading. Four of these students were chosen at random to participate in this study. Out of the nine students in the (CT) setting, five of them had been diagnosed with an (SLD) in the area of Reading. Four of these students were also chosen at random to participate in this study. According to the Illinois Report Card for 2013-2014, the school that was used as the research site is comprised of 74.1 percent African American students, 15.6 percent Hispanic, 4.4

percent Caucasian, 4.4 percent two or more races, and 1 percent Asian. 57.4 percent of the students are considered to be low-income students. 10.1 percent of the students are English Language Learners, and 13.3 percent of the students have some type of disability.

Instrumentation

The following details the two instruments that were used to collect data for this research study.

Achievement Improvement Monitoring System (Aims-Web)

The reading passages that were used as the instrument tool to gather data for this research study were randomly generated from the Achievement Improvement Monitoring System (Aims-Web). Fourth-grade passages, as well as fifth-grade and sixth-grade passages were used, as these were most suitable for the reading levels of the students being researched. All of the reading passages were published by Pearson Inc. (2016).

Validity and Reliability. According to Pearson Incorporated, The National Center on Response to Intervention (NCRTI) has given AIMS Web screening and progress monitoring assessments "its highest ratings for validity and reliability. These ratings are determined by the center's Technical Review Committee, which has independently established a set of criteria for evaluating the scientific rigor of progress monitoring tools" (Pearson. Inc., 2009, p. 11).

The San Diego Quick Assessment of Reading Ability (SDQA)

The reading level for each student in the study was determined by using the San Diego Quick Assessment of Reading Ability (La Prey & Ross, 1969). The San Diego Quick Assessment of Reading Ability can be found in Appendix C.

Validity and Reliability. The SDQA was published in 1969 and functioned as an early curricular based measure for reading placement. After an exhaustive search of literature, validity

and reliability could not be established. The SDQA does have content validity because the SDQA is a graded word list used for reading.

Procedures

The following details the procedures that were used throughout this research study. The procedures were broken down into four sections: Baseline, Intervention, Data Collection, and Data Analysis.

Baseline

For this study, baseline data was established for both groups of students by giving them a series of three pre-tests in order to determine their current fluency level, which was measured by the number of correct words per minute (CWPM) that students read. The first baseline was taken in September of 2015, the second baseline was taken in January of 2016, and the third baseline was taken in February of 2016. For each of the three baselines, all of the students read three randomly generated reading Aims-Web passages at their current reading level. The median score of the three passages was used for each of the three baseline scores.

Intervention

After the base-line was established, two of the students from each group were exposed to the method of Repeated Reading (Samuels, 1979) three times a week, for roughly 15 minutes each day, for a total of six weeks. The other two students from each group continued to receive their traditional reading instruction throughout the six weeks, without the Repeated Reading intervention.

Data Collection

The fluency of each student was tested once a week throughout the six-week process. Throughout these six weeks, the students each read one randomly computer generated Aims-

Web reading passage at their current reading level. Data was collected by counting the number of correct words read per minute (CWPM) for each reading passage. Each word that was read incorrectly was marked by the researcher and not counted in the (CWPM). Timing of the passages was done by the Aims-Web computer program. In order to determine the fluency growth for all students throughout the process, each of the scores for all eight students was then organized into a data table.

Data Analysis

Once the data had been collected and organized in an Excel Spreadsheet, the data was analyzed in four different categories via a data analysis grid, which are all described in Figure 1 below.

Repeated Reading **Co-Taught VS Instructional**	**Normal Reading Curriculum** **Co-Taught VS Instructional**
Co-Taught NRC VS Co-Taught RR	**Instructional NRC VS Instructional RR**

Figure 1. Data analysis grid provides direction for graphical analysis. RR is the repeated reading intervention group and NRC is the normal reading curriculum only group. Instructional (I) and Co-teaching (CT) are the setting conditions.

Each of the four categories were then analyzed using three types of graphical analyses; Slope, Percentage of Non-Overlapping Data (PND), and Mean Baseline Difference (MBD), all of which are based on single-subject design (Gay, Mills, and Airasian, 2006). In order to do this, the data

from each category was transformed into graphs that showed the fluency levels for each group throughout the entire process. These graphs were then used to show whether Repeated Reading had a positive impact on fluency, as well as which group, if any, it was more effective for.

According to Owen (2012), Slope is a data analysis tool that measures the steepness of a line between two points. Slope is calculated by picking two points on a line and determining their coordinates, determining the difference in y-coordinates of these two points (rise), determining the difference in x-coordinates for these two points (run), and then dividing the difference in y-coordinates by the difference in x-coordinates (rise/run or slope). According to Scruggs, Mastropieri, Cook, and Escobar (1986), PND is another analysis tool that calculates the percentage of data points in the treatment phase over the highest point of the distribution in the baseline phase. They go on to state that PND is calculated by identifying the highest baseline point, counting the number of intervention points that exceed the highest baseline point, and then calculating the proportion of non-overlapping to the total number of intervention points. The authors explain that 90 percent or higher indicates a highly effective treatment, 70 to 89 percent indicates a moderately effective treatment, 50 to 69 percent indicates a minimally effective treatment, and 49 percent or below indicates an ineffective treatment. According to Gast (2010), MBD is designed to "provide an index of the change of level of behavior across baseline treatment conditions" (p. 440). Gast explains that MBD is calculated by subtracting the mean of the intervention points from the mean of the baseline points, then dividing the result by the mean of the baseline points, and then multiplying by 100, with positive values indicating greater improvement.

Chapter Summary

This quantitative research study used the Single-Subject Experimental, A-B Design in order to determine whether Structured Repeated Reading is a beneficial reading strategy, specifically when dealing with students who have a Specific Learning Disorder (SLD) in the area of Reading. The study focused on eighth-grade students in a junior high school located in the Midwestern area of the United States. Four of the students were educated in an instructional, resource room setting (I), and four of the students from a mainstreamed, co-taught setting (CT). After the base-line had been established, two students from each group used the method of Repeated Reading three times a week, for roughly 15 minutes each day, for a total of six weeks. The number of correct words read per minute (CWPM) was collected, organized, and analyzed in order to determine the efficacy of Repeated Reading, and compare the results for each of the research groups.

Chapter IV

Results

Like previously stated, since reading is such a significant component of student success, it is critical to perform research to determine which reading strategies and approaches are most effective (Krashen, 1993). The purpose of this study was to explore Structured Repeated Reading as a beneficial reading strategy, in particular with students diagnosed with a reading disorder. This quantitative research study used the Single-Subject Experimental, A-B Design (Gay, Mills, and Airasian, 2006). Data has been collected over a six-week period, analyzed, and presented graphically, in tabular format, and narrative.

Demographics

According to the Illinois Report Card for 2013-2014, the school that was used as the research site is comprised of 10.1 percent of English Language Learners, and 13.3 percent of the students have some type of disability. Racial makeup of the students is described in figure 2 below. Similarly, for this eight student study, 75 percent of the students were African American, 12.5 percent were Hispanic, and 12.5 percent were Caucasian.

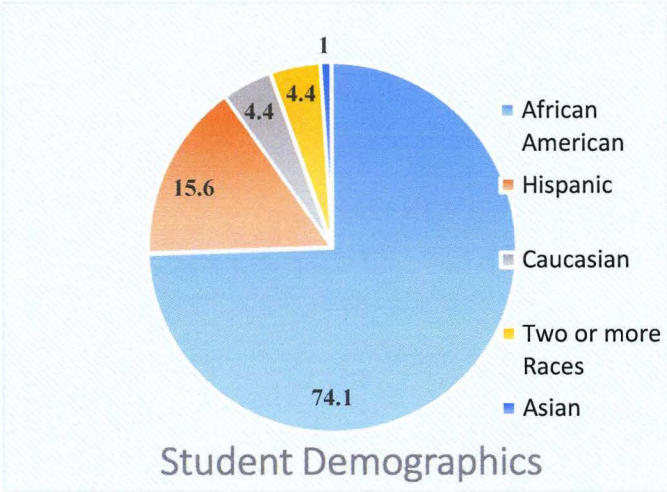

Figure 2. Racial breakdown of the students at the research site.

Participants for this study were selected from eighth grade students in a junior high school located in the Midwestern area of the United States. Eight students participated in the study, all with similar reading difficulties, and all diagnosed with a Specific Learning Disability (SLD) in the area of Reading, according to their IEP's (see table 3 for details). Four of the students were educated in an instructional, resource room setting (I), and four of the students from a mainstreamed, co-taught setting (CT). Of the eight students that participated in this study, seven are classified as African American, and one is classified as Hispanic. All eight of the students are considered to be low-income students.

Table 3

Student Reading Levels by Condition

Student	Age	Grade	Reading Level
ST 1 (CT) NRC	13	8	6th
ST 2 (CT) NRC	13	8	5th
ST 1 (I) NRC	14	8	4th
ST (I) NRC	13	8	4th
ST 1 (CT) RR	13	8	5th
ST 2 (CT) RR	13	8	6th
ST 1 (I) RR	14	8	6th
ST 2 (I) RR	13	8	6th

Note. Student reading levels were determined by The San Diego Quick Assessment of Reading Ability (SDQA) (La Prey & Ross, 1969).

Efficacy of Structured Repeated Reading

The initial purpose of this study was to discover the efficacy of Structured Repeated Reading by asking the question, "What is the efficacy of an implementation of Structured Repeated Readings on the fluency of students identified as having a reading disorder?" Figure 3 below shows the fluency gains made for the Normal Reading Curriculum (NRC) students, and figure 4 below shows the fluency gains made by the Repeated Reading (RR) students.

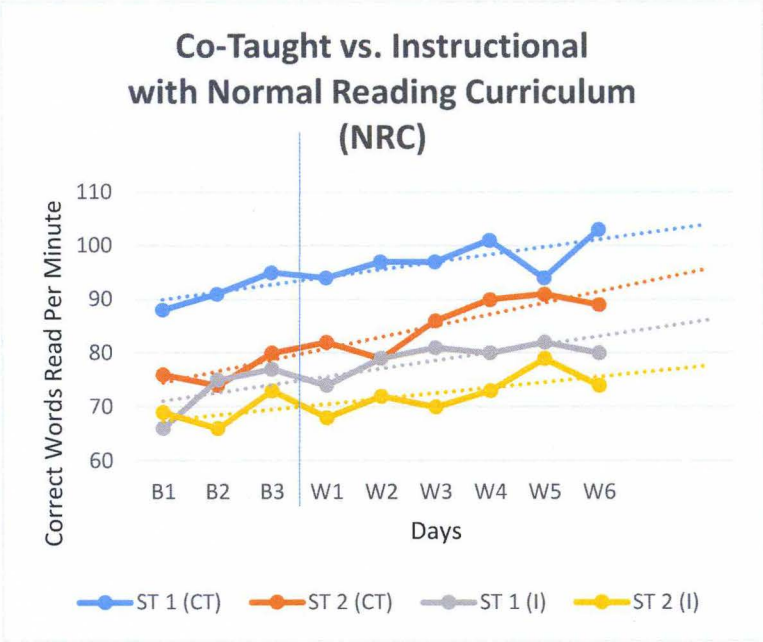

Figure 3. Results for Normal Reading Curriculum (NRC) for both co-taught (CT) and Instructional (I) groups showing baseline (B) and intervention weeks (W).

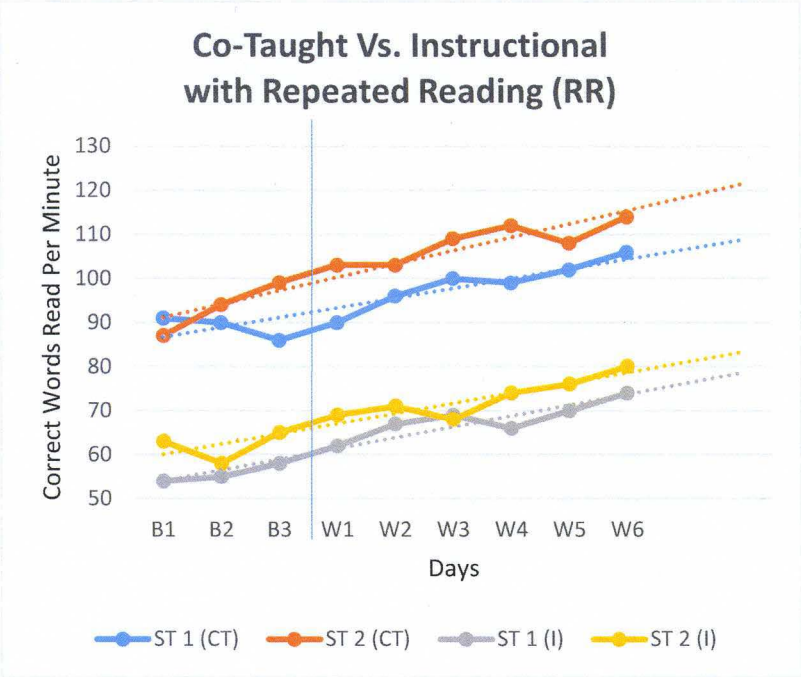

Figure 4. Results for Repeated Reading for both co-taught (CT) and Instructional (I) groups showing baseline (B) and intervention weeks (W).

Initially looking at Figures 3 and 4, it is obvious that the co-taught students in both groups started at higher fluency levels. The reason for this can be assumed that these students have a higher overall reading skillset, which is why they have been placed in the co-taught setting, rather than the Instructional setting.

Improvement Contrasts

This study also wanted to find out which group, if any, would experience a greater improvement in fluency by asking the question, "Do students in instructional reading show greater improvement than those in the co-taught setting?" Figure 4 above shows the fluency gains made for the (CT) students as well as the (I) students that used the RR strategy, so that the results for each group could be compared.

Table 4

Data Analysis Chart

Student	Slope	PND	MBD
ST 1 (CT) NRC	1.4	66%	7.0
ST 2 (CT) NRC	2.1	83%	11.0
ST 1 (I) NRC	1.5	66%	9.1
ST (I) NRC	1.0	33%	4.3
ST 1 (CT) RR	2.2	83%	11.0
ST 2 (CT) RR	3.0	100%	15.9
ST 1 (I) RR	2.5	100%	22.2
ST 2 (I) RR	2.3	100%	17.7

Note. Adapted from *Single subject research methodology in behavioral sciences*, by D. Gast, 2010 New York, NY: Routledge. PND stands for Percentage of Non-Overlapping Data and MBD stands for Mean Baseline Difference.

Chapter Summary

The purpose of this study was to explore Structured Repeated Reading as a beneficial reading strategy, in particular with students diagnosed with a reading disorder. Eight students participated in the study, all with similar reading difficulties, and all have been diagnosed with a Specific Learning Disability (SLD) in the area of Reading, according to their IEP's. Four of the students were educated in an instructional, resource room setting (I), and four of the students from a mainstreamed, co-taught setting (CT). This quantitative research study used the Single-Subject Experimental, A-B Design (Gay, Mills, and Airasian, 2006). Data has been collected

over a six-week period, analyzed, and presented graphically, in tabular format, as well as a narrative, in order to answer the two research questions the study focused on. The first question examined the efficacy of using Structured Repeated Reading to increase reading fluency for students that have a reading disorder. The second question examined which group, if any, would experience a greater improvement in fluency.

Chapter V

Discussion and Conclusion

Reading is one of the fundamental keys to a child's educational success. Children who excel in reading tend to excel in school as well (Krashen, 1993). Teachers have a variety of options when it comes selecting reading strategies that students will find success with. The purpose of this study was to explore Structured Repeated Reading as a beneficial reading strategy, in particular with students diagnosed with a reading disorder. This quantitative research study used the Single-Subject Experimental, A-B Design (Gay, Mills, and Airasian, 2006).

Discussion

Data has been collected over a six-week period, analyzed, and presented graphically, in tabular format, and narrative. The data has been analyzed using three types of graphical analyses; Slope, Percentage of Non-Overlapping Data (PND), and Mean Baseline Difference (MBD). As discussed in chapter two, there have been several studies that confirmed the efficacy of using Structured Repeated Reading as a successful approach for increasing reading fluency for both general education students, as well as students diagnosed with a learning disability (Homan, Klesius, & Hite, 1993; Sindelar, Monda, & O'Shea, 1990; Therrien, 2004). This study confirms these notions, as it also found Structured Repeated Reading to be a successful approach for increasing reading fluency for students that have a learning disability.

Conclusion

The effectiveness of the Repeated Reading strategy as a means to increase reading fluency, compared to the normal reading curriculum was examined in this study. Repeated Reading was examined under the Instructional, as well as the co-taught classroom setting.

Efficacy of Structured Repeated Reading

This study first set out to discover the efficacy of Structured Repeated Reading by asking the question, "What is the efficacy of an implementation of Structured Repeated Readings on the fluency of students identified as having a reading disorder?" After analyzing the data, it is clear that Structured Repeated Reading had a positive impact on student fluency, as it resulted in higher fluency gains for each of the students, when compared to the fluency gains made via the normal reading curriculum. It is known that Structured Repeated Reading had a positive impact on student fluency, more so than the fluency gains made via the normal reading curriculum, because each of the three analysis methods indicated higher fluency growth for each of the four students that used the Structured Repeated Reading strategy, compared to the four students who used the normal reading curriculum. The mean Slope for the NRC students was 1.25, compared to a mean Slope of 2.75 for the RR students. Similarly, the mean PND for the NRC students was 62%, compared to a mean PND of 96% for the RR students. Lastly, the mean MBD for the NRC students was 7, compared to a mean MBD of 13.5 for the RR students.

Improvement Contrasts

This study also wanted to find out which group, if any, would experience a greater improvement in fluency by asking the question, "Do students in instructional reading show greater improvement than those in the co-taught setting?" Although both groups did improve their reading fluency, it is harder to decipher whether or not the students in the co-taught group showed greater fluency improvement than the students in the instructional setting. The analysis results were mixed, as the (CT) group had a higher mean Slope, but the (I) group had a higher mean PND and MBD. Looking at the Slope, the mean for the (CT) group was 2.6, compared to a mean of 2.4 for the (I) group. Contradictorily, the mean PND for the (CT) group was 91.5%,

whereas the mean PND for the (I) group was 100%. The mean MBD for the (CT) group was 13.5, whereas the mean MBD for the (I) group was 16.7

Educational Implications

Based on these conclusions, it is important to make sure that Structured Repeated Reading is one of the strategies being used in the classroom to help increase reading fluency. This method is scientifically researched based and has proven to be effective in a variety of educational settings. Regardless of the setting, whether it be general education, co-taught, or instructional special education, Structured Repeated Reading can be used to help students increase their reading fluency, which will hopefully transmit to a higher level of academic achievement and success overall.

Recommendations for Further Research

Due to the small sample size, as well as the limited time constraints used for this study, similar studies that incorporate more students, and track the results for a longer period of time, would help to strengthen the claim made in this study that Structured Repeated Reading is an effective strategy to use to increase reading fluency. Furthermore, when specifically looking at which group Structured Repeated Reading is more effective for, adding students and extending the time frame may help answer this question, as the results regarding this aspect of the study were not definitive. Additionally, it is important to continue doing studies that explore other potential reading strategies, as having a plethora of strategies that have been proven to be effective to choose from at a teacher's disposable is critical to ensuring student success.

Summary

Since reading is such a significant component of student success, it is important to perform research to determine which reading strategies and approaches are most effective

(Krashen,1993). Providing this information to teachers allows them to make sure they are using strategies that are going to help their students be most successful. The purpose of this study was to determine if Structured Repeated Reading (Samuels, 1979) is a beneficial reading strategy, specifically when dealing with students who have a reading disorder (Allington, 1983). This quantitative research study used the Single-Subject Experimental, A-B Design (Gay, Mills, and Airasian, 2006). Data was collected over a six-week period, analyzed via Slope, PND, and MBD, and presented graphically, in tabular format, as well as a narrative, in order to answer the two research questions the study focused on. After analyzing the data, it is clear the Structured Repeated Reading is an effective strategy to use to increase reading fluency in both the co-taught, as well as the instructional classroom settings.

References

Alliance for Excellent Education. (2006). *Who's counted? Who's counting? Understanding high school graduation rates.* Washington, DC: Author.

Allington, R. L. (1983). Fluency: The neglected reading goal. *The Reading Teacher*, *36*(5), 556-561.

Allman, J. (2000). *Evolving brains*. New York, NY: Scientific American Library.

Anderson, R. C., Hiebert, E. F., Wilkinson, I. A. G, & Scott, J. (1985). *Becoming a nation of readers*. Champaign, Il. National Academy of Education and Center for the Study of Reading.

Applegate, M. D., Applegate, A. J., & Modla, V. B. (2009). "She's my best reader; she just can't comprehend": Studying the relationship between fluency and comprehension. *Reading Teacher, 62*(6), 512-521.

Basaran, M. (2013). Reading fluency as an indicator of reading comprehension. *Educational Sciences: Theory And Practice*, *13*(4), 2287-2290.

Boling, C. J., & Evans, W. H. (2008). Reading success in the secondary classroom. *Preventing School Failure*, *52*(2), 59-66.

Carbo, M. (1996). Whole language vs. phonics: The great debate. *Principal, (75)* 3, 36-38.

Carnine, D.W., Silbert, J., Kame'enui, E. J., & Tarver, S. G. (2004). *Direct reading instruction* (4th ed.). Upper Saddle River, NJ: Pearson.

Cassidy, J., & Grote Garcia, S. (2012). Defining the literacy agenda: Results of the 2013 what's hot, what's not survey. *Reading Today*, *30*(1), 9-12.

Chall, J. S. (1983). *Stages of reading development*. New York: McGraw-Hill.

Chall, J. S. (1996). *Learning to read: The great debate* (3rd ed.). Orlando, FL: Harcourt Brace.

Cohen, V. L., & Cowan, J. E. (2008). *Literacy for children in an information age: Teaching reading, writing, and thinking*. Belmont, CA: Thomson/Wadsworth.

Cunningham, P. M. & Cunningham, J. W. (2002). *What we know about how to teach phonics*. In A. E. Farstrup & S. J. Samuels (Eds.), *What research has to say about reading instruction* (3rd ed., pp. 87-109). Newark, DE: International Reading Association.

Esteves, K., & Whitten, E. (2011). Assisted reading with digital audiobooks for students with reading disabilities. *Reading Horizons, 51*(1), 21-40.

Eunice Kennedy Shriver National Institute of Child Health and Human Development. (2014). Retrieved from https://www.nichd.nih.gov/health/topics/reading/conditioninfo/pages/disorders.aspx.

Fletcher, J. M, Lyon, G. R, Fuchs, L. S, & Barnes, M. A. (2007*). Learning disabilities: From identification to intervention*. New York, NY: Guilford.

Flood, J., Lapp, D., & Fisher, D. (2005). Neurological impress method plus. *Reading Psychology*, *26*(2), 147-160.

Friend, M. (2013). *Best practices in co-teaching: Practical solutions for difficult and challenging issues (Grades 1-12)*. Greensboro, NC: Marilyn Friend, Inc.

Friend, M., & Bursuck, W. D. (2009). *Including students with special needs: A practical guide for classroom teachers* (5th ed.). Boston, MA: Allyn & Bacon.

Gast, D. (2010). *Single subject research methodology in behavioral sciences*. New York, NY: Routledge.

Gay, L., Mills. G. & Airasian, P. (2006). *Educational research: Competencies for analysis and application* (8th ed.). New York: Prentice Hall.

Homan, S. P., Klesius, J. P., & Hite, C. (1993). Effects of repeated readings and non-repetitive strategies on students' fluency and comprehension. *Journal of Educational Research 87*(2), 94-99.

Illinois State Board of Education. (2009). *Educational rights and responsibilities: Understanding special education in Illinois.* Retrieved from http://www/isbe.net/spec-ed/pdfs/parents_guide_eng.

Individuals with Disabilities Education Act. (2004). Retrieved from http://www.asha.org/advocacy/federal/idea/04-law-specific-ld/.

International Reading Association. (1997). *The role of phonics in reading instruction.* Retrieved from http://www.corwin.com/upm-data/12783_Ch1_from_Starrett_Final_Pdf_2.pdf.

Kim, Y.-S. G., Park, C. H., & Wagner, R. K. (2014). Is oral/text reading fluency a "Bridge" to reading comprehension? *Reading and Writing*, *27*(1), 79–99.

Klauda, S. L., & Guthrie, J. T. (2008). Relationships of three components of reading fluency to reading comprehension. *Journal of Educational Psychology*, *100*(2), 310-321.

Krashen, S. (1993). *The power of reading.* Englewood, CO: Libraries Unlimited.

LaBerge, D., & Samuels, J. (1974). Towards a theory of automatic information processing in reading. *Cognitive Psychology, 6*, 293-323.

La Pray, M., & Ross, R. (1969). The graded word list: quick gauge of reading ability. *Journal of Reading, 12*(4), 305–307.

Leach, J. M., Scarborough, H. S., & Rescorla, L. (2003). Late-emerging reading disabilities. *Journal of Educational Psychology, 95* (2), 211-224.

Macdonald, P. (2010). Paired reading: A structured approach to raising attainment in literacy. *Support For Learning*, *25*(1), 15-23.

Martin, E., Martin, R., & Terman, D. (1996). The legislative and litigation history of special education. *The Future of Children, 6*(1), 25-39.

Martinez, M., Roser, N. L., & Strecker, S. (1998). "I never thought I could be a star": A Readers Theatre ticket to fluency. *Reading Teacher*, *52*(4), 326-334.

National Institute of Child Health and Human Development Early Child Care Research Network. (2002). Early child care and children's development prior to school entry: Results from the NICHD Study of Early Child Care. *American Educational Research Journal, 39 (1)*, 133-164.

National Institute of Neurological Disorders and Stroke (NINDS). (2015). NINDS Dyslexia information page. Retrieved from http://www.ninds.nih.gov/disorders/dyslexia/dyslexia.htm.

National Reading Panel. (2000). *Report of the National Reading Panel: Teaching children to read.* Bethesda, MD: National Institute of Child Health and Human Development.

Nguyen, H. T. & Le, H.V. (2014). Phrase Reading: Its impact on EFL oral reading fluency and reading comprehension. *European Journal of Business and Social Sciences. 2*(11), 20-36.

Owen, G. (2012). *Fundamentals of scientific mathematics.* Mineola, NY: Dover Publications.

Pearson, Incorporated. (2009). *Aims web progress monitoring and rti system.* Retrieved from https://datacentral.esboces.org/Portals/0/Documents/AssessmentSupport/AIMSWeb/AIMSweb%20Brochure.pdf?ver=2013-01-31-102219-483.

Pearson, Incorporated. (2014). *Aims web faqs*. Retrieved from www.aimsweb.com/about/faqs.

Rasinski, T., & Stevenson, B. (2005). The effects of Fast Start Reading: A fluency-based home involvement reading program, on the reading achievement of beginning readers. *Reading Psychology*, *26*(2), 109-125.

Reutzel, D. R., & Cooter, R. B. (2005). *The essentials of teaching children to read: What every teacher should know!* Columbus, OH: Merrill/Prentice-Hall Publishing Company.

Samuels, S. J. (1979). "The method of repeated readings." *The Reading Teacher (A Reading Teacher Classic), 32*(4), 403-408.

Samuels, S. J. (1988). Decoding and automaticity: Helping poor readers become automatic at word recognition. *The Reading Teacher*, *41*(8), 756–760.

Schreiber, P.A. (1980). On the acquisition of reading fluency. *Journal of Reading Behavior*, *7*(3), 177–186.

Scruggs, T. E., Mastropieri, M. A., Cook, S. B., & Escobar, C. (1986). Early interventions for children with conduct disorders: A quantitative synthesis of single-subject research. *Behavioral Disorders*, *11*, 260-271.

Sindelar, P. T., Monda, L. E., & O'Shea, L. J. (1990). Effects of repeated readings on instructional- and mastery-level readers. *The Journal of Educational Research, 83*(4), 220–226.

Smith, D. D. (1979). The improvement of children's oral reading through the use of teacher modeling. *Journal of Learning Disabilities*, *12*(3), 172-175.

Therrien, W. J. (2004). Fluency and comprehension gains as a result of repeated reading: A meta-analysis. *Remedial and Special Education, 25*(4), 252–261.

Torgesen, J. (2000). Individual differences in response to early intervention: The lingering problem of treatment resistors. *Learning Disabilities Research and Practice*, *15*(1), 55-64.

United States Code Congressional and Administrative News. (1975). (U.S.C.C.A.N. 1975). Retrieved from http://www.wrightslaw.com/bks/lawbk/ch3.history.pdf.

U.S. Department of Education. (2008). *Reading First: Student achievement, teacher empowerment, national success*. Retrieved from https://www.2.ed.gov/nclb/methods/reading/readingfirst.pdf.

U.S. Department of Education. (2010). Thirty-Five years of progress in educating children with disabilities through IDEA. Retrieved from http://www2.ed.gov/about/offices/list/osers/idea35/history/idea-35-history.pdf.

Wexler, J., Vaughn, S., Edmonds, M., & Reutebuch, C. (2008). A synthesis of fluency interventions for secondary struggling readers. *Reading & Writing, 21*(4), 317–347.

Wolf, M. (2008). *Proust and the squid: The story and science of the reading brain*. Princeton, N.J: Recording for the Blind & Dyslexic.

Wolf, M., & Bowers, P. (1999). The double-deficit hypothesis for the developmental dyslexias. *Journal of Educational Psychology*. *91*(3), 415-438.

Wren, S. (N.D.) *The brain and reading*. Retrieved from http://www.balancedreading.com/brain.pdf.

Appendix A: Ethics

CITI Certification

Appendix B: Parent Permission

Information Letter

February 2016

Dear Parents and Guardians,

I am currently completing my master's degree in Special Education at Governor's State University. The final project for the program requires students to do an action research project. The focus I have chosen for my research is reading fluency. I am interested in seeing how successful Structured Repeated Reading is as a tool to help students increase their reading fluency.

The study will be conducted over a six-week period starting February 1st to April 4th. The students will be given pre and post tests to determine how effective Structured Repeated Reading was in regards to their reading fluency growth. The strategy being used in the classroom is very similar to our everyday routine, so it will be minimally obtrusive to students.

If you have any questions or concerns about the study please feel free to contact me at [redacted]

Thank you,

Ryan Capriotti

Permission Letter

February 2016

Dear Parents and Guardians,

I am currently completing my master's degree in Special Education at Governor's State University. The final project for the program requires students to do an action research project. The focus I have chosen for my research is reading fluency. I am interested in seeing how successful Structured Repeated Reading is as a tool to help students increase their reading fluency.

The study will be conducted over a six-week period starting February 1st to April 4th. The students will be given pre and post tests to determine how effective Structured Repeated Reading was in regards to their reading fluency growth. The strategy being used in the classroom is very similar to our everyday routine, so it will be minimally obtrusive to students. The progress of a few students will be tracked and recorded in an action research project. For instance, test scores and observations will be noted. Your child has been chosen to participate as a focus student for the study. In order for your child to do so, I need your consent.

No student names will be used in the final report, and I am convinced that this study can only be a benefit to your child, and that there is no possibility of adverse effects. There are no risks to your child throughout the duration of the study. Nevertheless, you are free to decline to give permission for your child to participate. If you agree, please sign on the line below indicating that your child may participate in the study. Please note, anytime during the study you can withdraw consent.

If you have any questions or concerns about the study please feel free to contact me at rcapriotti.student@govst.edu.

Thank you,

Ryan Capriotti

_____

Parent Signature

Appendix C: Instruments

San Diego Quick Assessment of Reading Ability

Appendix D: Data Table

Students Receiving Normal Reading Instruction				
Day	ST 1 (CT)	ST 2 (CT)	ST 1 (I)	ST 2 (I)
B1	88	76	66	69
B2	91	74	75	66
B3	95	80	77	73
W1	94	82	74	68
W2	97	79	79	72
W3	97	86	81	70
W4	101	90	80	73
W5	94	91	82	79
W6	103	89	80	74

Co-Taught Normal vs. Co-Taught Repeated				
Day	ST 1 (NR)	ST 2 (NR)	ST 1 (RR)	ST 2 (RR)
B1	88	76	91	87
B2	91	74	90	94
B3	95	80	86	99
W1	94	82	90	103
W2	97	79	96	103
W3	97	86	100	109
W4	101	90	99	112
W5	94	91	102	108
W6	103	89	106	114

Students Receiving Structured Repeated Reading				
Day	ST 1 (CT)	ST 2 (CT)	ST 1 (I)	ST 2 (I)
B1	91	87	54	63
B2	90	94	55	58
B3	86	99	58	65
W1	90	103	62	69
W2	96	103	67	71
W3	100	109	69	68
W4	99	112	66	74
W5	102	108	70	76
W6	106	114	74	80

Instructional Normal vs. Instructional Repeated				
Day	ST 1 (NR)	ST 2 (NR)	ST 1 (RR)	ST 2 (RR)
B1	66	69	54	63
B2	75	66	55	58
B3	77	73	58	65
W1	74	68	62	69
W2	79	72	67	71
W3	81	70	69	68
W4	80	73	66	74
W5	82	79	70	76
W6	80	74	74	80